



*U.S. Department of Commerce*  
**National Weather Service**  
Quad Cities, Iowa/Illinois

**INFORMATION SHEET**

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**FIVE FACTORS LEADING TO SPRING SNOWMELT FLOODING**

**(1) High Fall *Soil Moisture***

October and November precipitation are most significant because:

- Seasonably less *evapotranspiration*
- Less time for *percolation* prior to freeze-up

**(2) *Ground Frost***

Deep, hard ground frost prevents percolation during melt period, and can be caused by:

- *Cold temperatures* prior to heavy snowfall
- Normal or above normal *soil moisture* (for hardness)

**(3) Heavy Winter *Snow Cover***

Heavy unseasonable snow cover contributes to flood potentials as follows:

- High *water content* of snow is a significant contribution
- Widespread heavy *snow cover* usually delays spring warming, thus increasing the potential for heavier rains and a more rapid melt
- Heaviest snowfalls usually occur in late February or March

**(4) Widespread *Heavy Rains* During the Melt Period**

Added contribution to existing snow water contents:

- Particularly significant if soil is still *frozen* near the surface
- Crests can occur more *quickly*

**(5) Rapid *Snow Melt***

Nature of the temperature pattern:

- Warm rainy period with high dewpoint temperatures and above freezing temperatures at night
- Usually occurs when melt period is later than normal in the spring season. In addition to the above factors, ice jam flooding is more likely when flows are above normal and temperatures fluctuate above and below freezing.

## **FOR MORE INFORMATION**

### **By PHONE**

Contact our *Service Hydrologist*: **563/386-3976 x493**.

### **By FAX**

**563/386-7765**.

### **By INTERNET**

Visit our *Web site*: **<http://www.crh.noaa.gov/dvn/>**.

### **By MAIL**

Contact our *Service Hydrologist*:     **National Weather Service**  
   **9050 Harrison Street**  
   **Davenport, Iowa 52806-7326**

You can also listen to **NOAA WEATHER RADIO** for more information.